

## **Abstract of the Disclosure**

A system and method is described for detecting the presence of spatial non-randomness in semiconductor wafer map data comprised of a computer or embedded processor with the ability to interpret and extract the two-dimensional position of events defined in the data; a set of sub-regions of the wafer; a program for calculating multiple chi-squared values, each testing the null hypothesis that events counted inside a sub-region are random and in proportion to the area of the sub-region; a method for sending the result values to a destination, either inserted into the original data or as a separate result record; and a mechanism for testing the results to see if they satisfy an alarm condition and generating an appropriate response.